

IN THE CLAIMS:

Please cancel claims 1-3 and 10.

Please amend claims 4-9 and 11-16 as follows:

Sub C1
4. (Amended) A device as claimed in claim 26, wherein the operand mapping unit [includes] comprises;

a first multiplexer for providing one of the present luminance signal and the previous luminance signal as a first value 'a' to the numerator generating unit], an initial operand, of the conversion operation equation according to a format conversion using the delayed luminance signal Y1 from the delay and a luminance signal Y2 received presently], and

Q2
a second multiplexer for providing one of the present luminance signal and the previous luminance signal as a second value 'b' to the numerator generating unit], an initial operand, of the conversion operation equation according to a format conversion using the delayed luminance signal Y1 from the delay and a luminance signal Y2 received presently].

5. (Amended) A device as claimed in claim [3]4, wherein the numerator generating unit [includes;] comprises:

a first shift left for shifting the first value 'a' from the first multiplexer to a left direction by units of an (n)th power of $2(2^n, n = 0, 1, 2, \dots)$, to provide a plurality of values(a, 2a, 4a, 8a, ---) from the first value >a=, which are first intermediate operands,

a second shift left for shifting the second value >b= from the second multiplexer to a left direction by units of an (n)th power of $2(2^n, n = 0, 1, 2, \dots)$, to provide a plurality of values(b, 2b, 4b, 8b, ---) from the second value >b=, which are second intermediate operands, and

an operation processing unit for conducting operations required for obtaining [the] final operands and the numerator[s] portion in the conversion [operation] equation from the first intermediate operands and the second intermediate operands.

6. (Amended) A device as claimed in claim 5, wherein the operation processing unit [includes;] comprises:

a third multiplexer for receiving the values a, 2a, 4a, 8a from the first shift left and selecting and forwarding one of the values under the control of the [control unit] controller,

a fourth multiplexer for selectively providing either one of "a" and "0" from the first shift left under the control of the [control unit] controller,

a fifth multiplexer for selectively providing either one of values b, 2b, 4b, and 8b from the second shift left under the control of the [control unit] controller,

a sixth multiplexer for receiving the values 4b, 8b, and 16b from the second shift left and "0" and selectively providing any one of the received ones under the control of the [control unit] controller,

a seventh multiplexer for receiving the values b, 2b, and 4b from the second shift left and "0" and selectively providing any one of the received ones under the control of the [control unit] controller,

a²
cancel. an operator for selectively subjecting a value from the third multiplexer and a value from the fourth multiplexer to a different operation [as necessary],

a first adder for adding values from the fifth multiplexer and the first multiplexer,

a subtracter for subtracting a value from the seventh multiplexer from a value from the first adder, and

a second adder for adding values from the operator and the subtracter, to generate a numerator portion f1 of the conversion [operation] equation.

8. A device as claimed in claim 3, wherein the denominator generating unit comprises:

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2.1.24(a)

a shift right shifting the numerator portion f1 from the numerator generating unit by units of (n)th power (n=0, 1, 2, 3, ---) of 2 in a right direction, to provide a plurality of values 2, 1/4, 1/8, 1/16, --- (n=0, 1, 2, 3, ---), and

an operation processing unit for processing operations required for obtaining denominator portion of the conversion [operation] equation and a luminance signal having a final converted format using the plurality of values.

DE.
R1.1/21(a)
~~9. A device as claimed in claim 8, wherein the operation processing unit comprises [includes;]~~

~~an eighth multiplexer for receiving the values f1, f1/2, and f1/4 from the shift right and providing one of the values under the control of the controller [control unit],~~

~~a first divider for dividing a value from the eighth multiplexer by three,
a ninth multiplexer for selectively providing either one of a value f1 from the numerator generating unit and the value from the first divider,~~

~~a second divider for dividing a value from the ninth multiplexer by "five",
a third divider for dividing a value from the first divider by "three", and
a tenth multiplexer for selectively providing one of values from the first, second, and third dividers, the present luminance signal [a luminance signal Y2 received presently], and a value from the shift right as a converted luminance signal under the control of the [control unit] controller.~~

DE.
4.12.16a)

11. A device as claimed in claim 28[10], wherein the operand mapping unit comprises: [includes;]

a third multiplexer for providing one of the present luminance signal and the previous luminance signal as a first initial operand value 'a' to the numerator generating unit [of the conversion operation equation according to a format conversion using the signals from the first multiplexer and the second multiplexer], and

a fourth multiplexer for providing one of the present luminance signal and the previous luminance signal as a second initial operand value 'b' to the numerator generating unit [of the conversion operation equation according to a format conversion using the signals from the first multiplexer and the second multiplexer].

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2.11.21a)

12. A device as claimed in claim 11 [10], wherein the numerator generating unit comprises: [includes;]

a first shift left for shifting the value $>a=$ from the third multiplexer to a left direction by units of an (n)th power of 2 (2^n , $n = 0, 1, 2, \dots$), to provide a plurality of values ($a, 2a, 4a, 8a, \dots$) from the value $>a=$, which are first intermediate operands,

a second shift left for shifting the value $>b=$ from the fourth multiplexer to a left direction by units of an (n)th power of 2 (2^n , $n = 0, 1, 2, \dots$), to provide a plurality of values ($b, 2b, 4b, 8b, \dots$) from the value $>b=$, which are second intermediate operands, and

an operation processing unit for conducting operations required for obtaining [the] final operands and the numerator[s] portion in the conversion [operation] equation from the first intermediate operands and the second intermediate operands.

DE. 4.12(a)
13. A device as claimed in claim 12, wherein the operation processing unit comprises: [includes;]

a third multiplexer for receiving the values $a, 2a, 4a, 8a$ from the first shift left and selecting and forwarding one of the values under the control of the controller [control unit],

a fourth multiplexer for selectively providing either one of "a" and "0" from the first shift left under the control of the controller [control unit],

a fifth multiplexer for selectively providing either one of values $b, 2b, 4b$, and $8b$ from the second shift left under the control of the controller [control unit],

a sixth multiplexer for receiving the values $4b$, $8b$, and $16b$ from the second shift left and $A0$ and selectively providing any one of the received ones under the control of the controller [control unit],

a seventh multiplexer for receiving the values b , $2b$, and $4b$ from the second shift left and "0" and selectively providing any one of the received ones under the control of the controller [control unit],

an operator for selectively subjecting a value from the third multiplexer and a value from the fourth multiplexer to a different operation [as necessary],

a first adder for adding values from the fifth multiplexer and the first multiplexer,

a subtracter for subtracting a value from the seventh multiplexer from a value from the first adder, and

a second adder for adding values from the operator and the subtracter, to generate a numerator portion f_1 of the conversion [operation] equation.

14. A device as claimed in claim 13, wherein the operator is either an adder or a subtracter.

15. A device as claimed in claim 10, wherein the denominator generating unit comprises:

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a shift right shifting [shifts] the numerator portion f1 from the numerator generating unit by units of (n)th power (n=0, 1, 2, 3, ---) of 2 in a right direction, to provide a plurality of values 2, 1/4, 1/8, 1/16, --- (n=0, 1, 2, 3, ---), and

an operation processing unit for processing operations required for obtaining denominator portion of the conversion [operation] equation and a luminance signal having a final converted format using the plurality of values.

16. A device as claimed in claim 15, wherein the operation processing unit comprises [includes;]

an eighth multiplexer for receiving the values f1, f1/2, and f1/4 from the shift right and providing one of the values under the control of the controller [control unit],

a first divider for dividing a value from the eighth multiplexer by three,
a ninth multiplexer for selectively providing either one of a value f1 from the numerator generating unit and the value from the first divider,

a second divider for dividing a value from the ninth multiplexer by "five",
a third divider for dividing a value from the first divider by "three", and
a tenth multiplexer for selectively providing one of values from the first, second, and third dividers, a present chrominance signal [chrominance signal Y2 received presently], and a value from the shift right as a converted chrominance signal under the control of the controller [control unit].

D.E.
2/12/02

Please add the following new claims

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--24. A device for converting a video format, comprising:
a controller determining a conversion equation to convert a video signal into a desired format based on a conversion mode, the conversion equation have a numerator portion and a denominator portion, and outputting control signals based on the determined conversion equation;

a numerator generating unit receiving at least one of a present video signal and a previous video signal, configuring to calculate the numerator portion of the conversion equation in response to the control signals, and calculating the numerator portion using the received at least one of present and previous signals; and

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a denominator generating unit receiving output of the numerator generating unit, configuring to divide the output of the numerator generating unit by the denominator portion in response to the control signals, and dividing the output of the numerator generating unit by the denominator portion to obtain output video signal of the desired format.

25. The device as claimed in claim 24, wherein the present and previous video signals are luminance signals.

26. The device as claimed in claim 24, further comprising:

an operand mapping unit receiving the present luminance signal and the previous luminance signal, and selectively supplying the present luminance signal and the previous luminance signal to components of the numerator generating unit.

27. The device as claimed in claim 24, wherein the present and previous video signals are chrominance signals.

28. The device as claimed in claim 26, further comprising:

an averaging unit averaging the present chrominance signal and the previous chrominance signal to obtain an averaged chrominance signal;

a first multiplexer selectively outputting one of the averaged chrominance signal and the present chrominance signal;

a second multiplexer selectively outputting one of the averaged chrominance signal and the previous chrominance signal; and

an operand mapping unit receiving output from the first and second multiplexers, and selectively supplying the output from the first and second multiplexers to components of the denominator generating unit.

29. A device for converting a video format, comprising:
a vertical format converting unit receiving a video signal and determining a converting mode, and including,
a first operation unit for being configured to perform an arithmetic operation, and
a first control unit determining a vertical conversion operation to convert the video signal into a desired vertical format based on the determined converting mode, and configuring the operation unit to perform the vertical conversion operation; and
a horizontal format converting unit receiving output of the vertical format converting unit, and including,
a second operation unit for being configured to perform an arithmetic operation, and
a second control unit determining a horizontal conversion operation to convert the output of the vertical format converting unit into a desired horizontal format based on the determined converting mode, and configuring the operation unit to perform the horizontal conversion operation.

30. A device for converting a video format, comprising